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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,839	12/10/2001	Mohammed N. Islam	20434-753 (069204.0177)	5056
5073	7590	12/31/2003	EXAMINER	
BAKER BOTTS L.L.P. 2001 ROSS AVENUE SUITE 600 DALLAS, TX 75201-2980			HUGHES, DEANDRA M	
			ART UNIT	PAPER NUMBER
			3663	

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/014,839

Applicant(s)

ISLAM, MOHAMMED N

Examiner

Deandra M Hughes

Art Unit

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-55 and 57-104 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 38-51, 77-81 and 97-104 is/are allowed.
- 6) ☒ Claim(s) 1,3-24, 26-27, 29-36, 52, 57-63, 65-75, 82, 86-92, 94- 96 is/are rejected.
- 7) ☒ Claim(s) 25, 28, 37, 53-55, 64, 76, 83-85 and 93 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Disqualified as Prior Art

1. Applicant submitted that Bolshtyansky and Bartolini can not be used to support a rejection of at least claims 1, 29, 52, 67, 72, 82, and new claims 87-104 because the claims have an effective filing date of at least December 12, 2000 and/or December 23, 1999.

This argument is found not convincing because the parent applications (09/719,591 filed Dec. 12, 2000) and/or patents (6,359,725 and 6,335,820 both filed Dec. 23, 1999) to which the applicant claims priority clearly do not support a number of claims listed above.

For example, co-propagating pumps in a multi-stage Raman amplifier with both discrete and distributed amplifier modules is not supported.

Consequently, a mark-up for a continuation-in-part application showing the subject matter added where there is an intervening reference is required. See MPEP §704.11 (a).

Copending Applications

2. Due to a number of copending applications with similar claims to the present application, Applicant is reminded of his responsibility to disclose the rejection of claims in a copending application before a different examiner that are substantially similar to the claims in the present application (*Dayco Products Inc. v. Total Containment Inc.*, Fed. Cir., No. 02-1497, 5/23/03).

Claim Rejections - 35 USC § 102

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1, 3-24, 26-27, 29-36, 67-71, 87-92, and 96 are rejected under 35 U.S.C. 102(e) as being anticipated by Bolshtyansky (US 6,456,426 filed Aug. 7, 2001).

With regard to claim 1, Bolshtyansky discloses:

- an amplifier (18) including at least a distributed Raman amplifier fiber (46, col. 4, lines 60-67) and a discrete amplifier fiber (46, col. 4, lines 60-67), the amplifier configured to be coupled to at least one signal source (via 16) that produces a plurality of signal wavelengths and at least a first pump source that produces one or more pump beam wavelengths (1st pump 42);
- a signal input port (via 16) coupled to the amplifier;
- a signal output port (via 28) coupled to the amplifier, the distributed Raman and discrete amplifier fibers being positioned between the signal input port and the signal output port;
- a first pump input port (1st coupler 44, co-propagating; see col. 5, line 10) coupled to a first end of the distributed Raman amplifier fiber and operable to introduce a first pump signal to the distributed Raman amplifier fiber;
- a second pump input port (2nd coupler 44) coupled to a second end of the distributed Raman amplifier fiber, the first ending being located closer to the signal input port than the second end, wherein the first pump signal

traverses the distributed Raman amplifier fiber in a first direction (co-propagating) and the second pump signal traverses the distributed Raman amplifier in a direction counter to the first direction (counter-propagating); and

- a third input port coupled (4th coupler #44) to the discrete amplifier fiber.

With regard to claim 29, Bolshtyansky discloses:

- an optical fiber (18) including at least a distributed Raman amplifier fiber (46, col. 4, lines 60-67) and a discrete amplifier fiber (46, col. 4, lines 60-67), the optical fiber configured to be coupled to at least one signal source (via 16) that produces a plurality of signal wavelengths and at least two pump sources (42) the produce one or more pump beam wavelengths wherein at least a portion of one of the distributed Raman amplifier fiber and the discrete amplifier fiber is a dispersion compensating fiber (col. 5, line 1);
- a signal input port coupled to the optical fiber (via 16);
- a first pump input port (1st coupler 44) positioned between the signal input port and the distributed Raman amplifier fiber, the first pump input port operable to introduce a first pump signal to the distributed Raman amplifier fiber;
- a second pump input port (2nd coupler 44) operable to introduce a second pump signal to the distributed Raman amplifier fiber, the distributed Raman amplifier fiber being positioned between the signal input port and

the second pump input port and signal output port, wherein the first pump signal traverses the distributed Raman amplifier in a first direction (co-propagating) and the second pump signal traverses the distributed Raman amplifier in a direction counter to the first direction (counter-propagating); and

- a third input port (3rd coupler 44) configured to pump the discrete Raman amplifier fiber.

With regard to claim 67, Bolshtyansky discloses,

- a plurality of transmitters (fig. 1, 12) that produce a plurality of signal wavelengths;
- a multi-stage optical amplifier (18) comprising:
 - o at least a distributed Raman amplifier fiber (46) and a discrete amplifier fiber (46), the multi-stage optical amplifier being coupled to the plurality of transmitters and configured to be coupled (44) to at least a first pump source (42) that produces one or more pump beam wavelengths;
 - o a signal input port coupled to the amplifier (16), the distributed Raman and discrete amplifier fibers being positioned between the signal input port and the signal output port (28);
 - o a first pump input port (44) coupled to a first end of the distributed Raman amplifier fiber and operable to introduce a first pump (42) signal to the distributed Raman amplifier fiber;

Art Unit: 3663

- a second pump input port (44) coupled to a second end of the distributed Raman amplifier fiber and operable to introduce a second pump signal (42) to the distributed Raman amplifier fiber, the first end being located closer to the signal input port than the second end, wherein the first pump signal traverses the distributed Raman amplifier fiber in a first direction (co-propagating) and the second pump signal (counter-propagating) traverses the distributed Raman amplifier in a direction counter to the first direction;
- a third pump input port (44) coupled to the discrete amplifier fiber; and a plurality of receivers coupled to the multi-stage optical amplifier (fig. 1, 14).

Claim Rejections - 35 USC § 103

5. Claims 52, 57-63, 65-66, 72-75, 82, 86, and 94-95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bolshtyansky (US 6,456,426 filed Aug. 7, 2001) in view of Grubb (WO 9842088 A1 published September 24, 1998).

Bolshtyansky does not specifically disclose a pump shunt. However, Grubb teaches the use of a pump shunt to supply excess pump signals to the second stage of the optical amplifier (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a pump shunt for the advantage of providing excess pumping to the second stage of the optical amplifier.

Allowable Subject Matter

6. Claims 38-51, 77-81, 97-104 are allowed.

Art Unit: 3663

7. Claims 25, 28, 37, 53-55, 64, 76, 83-85, and 93 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments with respect to claims 1-24, 26-27, 29-37, 52, 56-63, 65-75, 82, 86-92, and 94-96 have been considered but are moot in view of the new ground(s) of rejection.

Information Disclosure Statement

9. In the previous office action, the Examiner inadvertently did not initial an item. The reference on page 2, Item Q of IDS submitted 11/6/02 (paper #8) has now been initialed.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 3663

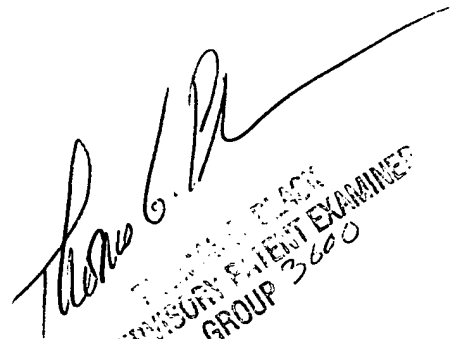
extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deandra M Hughes whose telephone number is 703-306-4175. The examiner can normally be reached on M-F, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G Black can be reached on 703-305-9707. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.


DMH


THOMAS G. BLACK
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